



## **ENCANA CORPORATION Expression of Interest (EOI)**

<b>PROVISION OF: BIDS Category:</b>	<b>Drilling and Completions Support Services</b> 0200 Materials and Equipment (0203, 0209, 0221, 0257, 0254) 0300 Directional Drilling 0500 Logging (0510, 0520, 0525)
<b>Reference:</b>	EOI D2008005
<b>Issue Date:</b>	January 31, 2008
<b>Closing Date:</b>	February 14, 2008

### **DEEP PANUKE PROJECT SUMMARY**

EnCana Corporation is developing the Deep Panuke natural gas project in Nova Scotia's offshore. The project involves the installation of the facilities required to produce natural gas from the Deep Panuke field, located approximately 175 kilometres offshore Nova Scotia. Produced gas will be transported by subsea pipeline to Goldboro, N.S., where it will be transported via the Maritimes & Northeast Pipeline (M&NP) to markets in Eastern Canada and the northeastern United States. First gas from the project is expected in 2010.

### **PROJECT QUICK FACTS**

- The project was approved for development by EnCana's Board of Directors in October 2007.
- EnCana has entered into an agreement with Single Buoy Moorings Inc. (SBM) for the provision and operation of the Deep Panuke production field centre.
- The design capacity of the project is 300 MMcf/d of sales-quality gas.
- Regulatory applications for Deep Panuke were filed in 2006, with approvals granted in 2007.

### **BUSINESS OPPORTUNITIES**

EnCana is committed to providing opportunities for Nova Scotian and Canadian companies through employment, procurement and contracting on an internationally competitive basis, with full and fair opportunity for Nova Scotians and Canadians, and first consideration to Nova Scotians where competitive on a best value basis. Companies who have been invited to tender will be required to complete a Canada-Nova Scotia Benefits Questionnaire, and demonstrate their commitment to and compliance with EnCana's requirements regarding Canada-Nova Scotia Benefits, during the tender process.

Interested firms are requested to demonstrate their capabilities and experience via a formal response to this EOI.

### **EXPRESSION OF INTEREST**

EnCana is seeking interested firms for the provision of Drilling and Completions Support Services. Preference will be given to companies that can offer integrated support services packages and the associated commercial and operational efficiencies. However, EnCana may, at its discretion, exclude certain services from the integrated bundle for technical, operational or commercial reasons.

The work will be conducted onboard the Rowan Gorilla II or III. One acid gas injection well will be drilled and completed while 4 existing wells will be re-entered and completed for Production. In addition an optional new Production well may be added to the program at a later date. All Production wells will be flow tested.

The wells are expected to be normally pressured, however lost circulation, and gas containing H<sub>2</sub>S and CO<sub>2</sub> can be expected in the lower section of the well. All equipment will be required to be NACE compliant as a minimum.

EnCana is looking for the following Primary Well Services:

- Directional + LWD;
- Drilling and Completion Fluids;
- Cement and Stimulation;
- Mud Logging;
- Wire line, cased and open hole;
- Completion Tools e.g. SCSSV, Clamps, P/T sensors, Packers;
- Well Testing – includes completion riser.

Contractor shall be required to:

1. Provide downhole completion equipment and qualified installation personnel. The downhole equipment for each well will include SCSSV's, permanent packers, DHPT gauges, chemical injection mandrels and PBR's. Given the non intervention design philosophy of the Deep Panuke project only SCSSV's with demonstrated in service mean time to failures of 150-200+ yrs will be considered acceptable.
2. Provide well testing equipment and qualified operating personnel. The well testing package shall include; Lower Test String (below BOP), Upper Test String (above BOP), Surface Testing Equipment, Sampling [Bottom hole and Surface], Pressure and Temperature Gauges, Flare booms, Burner heads, Heat Suppression Equipment and a Completion Riser System.
3. Provide Drilling and Completions fluid, equipment, chemicals and qualified operating personnel. The fluids that will be used on the re-entries will primarily consist of filtered brine while the new drill wells will use a water-based mud system. The Services will include:
  - Summary table of proposed mud system and mud properties for each hole section
  - Hole volumes for casing program as supplied by EnCana
  - Detailed hydraulics program
  - Recommendations on hole cleaning
  - Mud formulations by hole section to meet EnCana's anticipated pore pressure profile
  - Anticipated drilling problems and recommended drilling fluid solutions
  - Recommendations on solids control equipment and optimized performance
  - Completion brine formulations and displacement procedures
  - Recommendations on well clean-ups (procedures and products)
  - Recommendations on filtration requirements and equipment optimization
  - Lost circulation recovery techniques
  - Mud contamination. Contingency planning.
4. Provide wellbore cementing/acid stimulation equipment and qualified operating personnel. Primary functions will include:
  - primary cementing of the proposed casing strings;
  - stimulation of primary carbonate zones in the production wells;
  - blowout preventer pressure tests;
  - casing pressure tests;
  - formation integrity tests;
  - a step rate test for the acid gas injection well;

- all required well testing operations;
  - casing cleaning pumping services.
5. Provide mud logging equipment and qualified operating personnel. Primary functions will include:
    - Monitoring and recording of PVT.
    - Monitoring and recording of well bore gains and losses.
    - Hydrocarbon unit monitoring and recording.
    - Drilling parameter monitoring and recording.
  6. Provide solids control and filtering equipment and qualified operating personnel. Primary functions will be to:
    - Reduce drilling fluids maintenance costs
    - Control drilling fluid density and rheology to desired parameters
    - Optimize ROP by reducing solids content
    - Maintain LGS at an acceptable economic level
    - Reduce dilution rates
    - Reduce torque and drag
    - Provide Primary and secondary solids removal and recovery
    - Reduce formation damage
    - Allow for continuous processing of circulating fluids
    - Reduce environmental impact
    - Lower circulating density (ECD)
    - Reduce system pressure losses
    - Reduce differential sticking tendencies
    - Provide for better cement jobs
    - Reduce waste disposal cost
  7. Provide directional drilling equipment and qualified operating personnel. Services will include:
    - Directional Drilling Services (DD);
    - Measurement While Drilling Services (MWD) and In Field Referencing;
    - Logging While Drilling Services (LWD);
    - Gyro Surveying (Gyro).
  8. Provide electric wireline and slickline equipment, tools and qualified operating personnel. Services will include:
    - Open hole electric wireline logging for the measurement of rock parameters such as:
      - a) Density
      - b) Porosity
      - c) Resistivity
      - d) Wellbore geometry
    - Cased hole electric wireline evaluation services
    - Slick line services (tubing plugs, sleeves, subsea tree plugs, etc).

## **PROJECT REQUIREMENTS**

1. Interested parties are required to have a registered Quality Management System and a current certificate issued by a recognized third party that certifies that the Quality Management System meets the requirements of the ISO 9001.
2. All work carried out on the Deep Panuke Project shall comply fully with Canada-Nova Scotia Offshore Petroleum Board Regulations.
3. Contractors shall have previous experience and solid Quality and EHS management performance on similar projects.

4. Contractor shall have an electronic reporting and inspection tracking system which is maintained in a current state;
5. Offshore personnel will be required to have valid Basic Survival Training acceptable to the CNSOPB and a valid H<sub>2</sub>S certificate.

#### **INFORMATION REQUESTED WITH EOI RESPONSE**

EnCana will select qualified bidders using the responses to this EOI as a guide. Any eventual list of Bidders will be posted on BIDS Nova Scotia's website. EnCana reserves the right to select more than one Contractor to execute the above Scope of Work.

EnCana is under no obligation to proceed with a Request for Proposal as a result of this call for Expressions of Interest. Respondents that qualify will be invited to participate in the event Proposals are solicited.

Expressions of Interest must be received on or before February 14, 2008 1:00 PM Atlantic time.

All inquires and Expression of Interest must be clearly marked with the EOI reference number and should be directed to:

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In addition, potential suppliers for this project, if they have not already done so, should register their companies by contacting BIDS Nova Scotia at:

Phone: 902-462-4824  
Phone: 1-800-397-0393  
Email: bids@istar.ca

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